



(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
08.10.2003 Bulletin 2003/41

(51) Int Cl.<sup>7</sup>: **G06F 17/50**

(43) Date of publication A2:  
27.12.2000 Bulletin 2000/52

(21) Application number: 00303662.1

**(22) Date of filing: 02.05.2000**

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

(72) Inventor: Dole, Harry  
San Jose, California 95112 (US)

**(74) Representative: Stebbing, Timothy Charles  
Haseltine Lake & Co.,  
Imperial House,  
15-19 Kingsway  
London WC2B 6UD (GB)**

(30) Priority: 20.06.1999 US 140528  
06.01.2000 US 478978

(71) Applicant: **FUJITSU LIMITED**  
**Kawasaki-shi, Kanagawa 211-8588 (JP)**

**(54) System and method for integrated circuit design**

(57) A software suite supporting a methodologies-based approach for the development of large scale integrated circuits. Platforms are configured as web servers (2503) so that they may be easily accessed by designers in widely-varying physical locations and with widely-varying computer workstation capabilities.

A suite of methodologies is defined for each block (101, 103, 105, 107, 109, 111) of an integrated circuit (100). This suite is defined by expert designers, through the use of an interface, who enter information regarding the steps and tools (2300-2306) to be used during design of the blocks (101, 103, 105, 107, 109, 111). The expert designer provides whatever documentation is deemed appropriate to aid in completion of the steps.

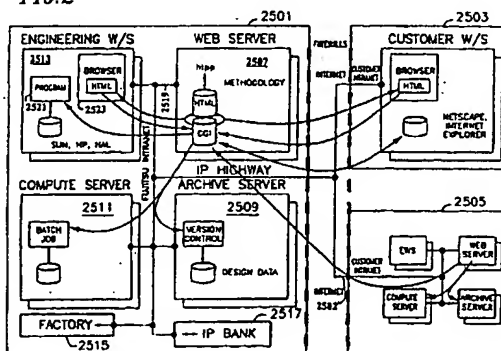
For each block (101, 103, 105, 107, 109, 111) within an integrated circuit (100), an expert designer attaches a methodology or set of methodologies in an ordered fashion to a block (101, 103, 105, 107, 109, 111). These methodologies are then used by block designers to design and implement the block.

The invention provides extensive reporting capability regarding the status of development of each block, as well as metrics pertaining to the implementation of the design. These metrics include, for example, information pertaining to the run time of various tools, the time taken to accomplish each methodology, as well as each step in that methodology.

The invention also includes a common software interface (CSI). The CSI defines a number of functions which are to be supported by each tool (2300-2306)

used within the system. The functions allow other tools within the system to access data or information from other tools.

**FIG. 2**





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 00 30 3662

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (InCl.7)
X	CHAKRABARTI D R ET AL: "WADE: a Web-based automated parallel CAD environment" HIGH PERFORMANCE COMPUTING, 1998. HIPC '98. 5TH INTERNATIONAL CONFERENCE ON MADRAS, INDIA 17-20 DEC. 1998, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 17 December 1998 (1998-12-17), pages 473-480, XP010317640 ISBN: 0-8186-9194-8	1,5-8, 17,18, 45,47	606F17/50
Y	* abstract *	2-4,9,44	
A	* page 473, column 2, line 25 - page 474, column 1, line 9 * * page 474, column 2, line 13 - line 23 * * page 475, column 1, line 10 - line 14 * * page 475, column 1, line 20 - line 24 * * page 477, column 1, line 33 - column 2, line 44 * * page 478, column 1, line 11 - line 30 * * page 478, column 2, line 4 - line 14 * * figures 1,2,5,6 *	12,24	
X	SAHA D ET AL: "Web-based distributed VLSI design" VLSI DESIGN, 1998. PROCEEDINGS., 1998 ELEVENTH INTERNATIONAL CONFERENCE ON CHENNAI, INDIA 4-7 JAN. 1998, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 4 January 1998 (1998-01-04), pages 449-454, XP010263475 ISBN: 0-8186-8224-8	1,5-8, 17,18	606F
A	* the whole document * --- -/--	12,24	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>13 August 2003</b>	Examiner <b>Radev, B</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.02 (P0401)



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 3662

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	WO 95 32476 A (CADENCE DESIGN SYSTEMS INC) 30 November 1995 (1995-11-30) * page 3, line 11 - page 4, line 5 * * page 4, line 19 - line 24 * * page 5, line 28 - page 6, line 4 * * page 7, line 21 - page 8, line 4 * * page 10, line 7 - line 11 * * page 11, line 27 - page 12, line 8 * * page 14, line 5 - line 6 * * page 14, line 15 - line 26 * * page 15, line 6 - line 16 *	2-4,9,44	
A	MADNI C C ET AL: "Web-enabled collaborative design process management: application to multichip module design" SYSTEMS, MAN, AND CYBERNETICS, 1998. 1998 IEEE INTERNATIONAL CONFERENCE ON SAN DIEGO, CA, USA 11-14 OCT. 1998, NEW YORK, NY, USA, IEEE, US, 11 October 1998 (1998-10-11), pages 2625-2630, XP010310737 ISBN: 0-7803-4778-1 * the whole document *	1-3,5-8, 12,13, 15-17, 22,24, 44,45, 47-49	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 13 August 2003	Examiner Radev, B
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	

EPO FORM 1503 03.02 (P04C01)



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 3662

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	<p>EP 0 856 804 A (CANON KK) 5 August 1998 (1998-08-05)</p> <p>* column 2, line 6 - line 19 * * column 3, line 29 - line 47 * * column 4, line 5 - line 25 * * column 14, line 28 - line 33 * * column 17, line 46 - column 18, line 5 * * column 18, line 14 - line 20 * * column 18, line 44 - line 48 * * column 19, line 8 - line 26 * * column 20, line 15 - line 38 * * column 21, line 18 - line 24 * * column 33, line 53 - line 56 * * column 62, line 7 - line 22 * * figures 9,12 *</p> <p>---</p>	1-9,17, 18,44, 45,47	
A	<p>LAVANA H ET AL: "EXECUTABLE WORKFLOWS: A PARADIGM FOR COLLABORATIVE DESIGN ON THE INTERNET" PROCEEDINGS OF THE DESIGN AUTOMATION CONFERENCE. ANAHEIM, JUNE 9 - 13, 1997, NEW YORK, ACM, US, vol. CONF. 34, 9 June 1997 (1997-06-09), pages 553-558, XP000731878. ISBN: 0-7803-4093-0</p> <p>-----</p>		<p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p>
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>13 August 2003</b>	Examiner <b>Radev, B</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p>		<p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document</p>	

EPO FORM 1603 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 3662

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-08-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9532476	A	30-11-1995	AU	2655395 A	18-12-1995
			EP	0760980 A1	12-03-1997
			WO	9532476 A1	30-11-1995
<hr/>					
EP 0856804	A	05-08-1998	JP	10275174 A	13-10-1998
			JP	10275188 A	13-10-1998
			EP	0856804 A2	05-08-1998
			US	6115034 A	05-09-2000
<hr/>					

EPO FORM P0439

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82